

Global Youth Tobacco Survey – Delhi Report

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Introduction

Tobacco use is one of the major preventable cause of death and disability worldwide. The emergence of tobacco related diseases is a burgeoning public health problem. According to recent WHO estimates, 4.9 million deaths annually are attributed to tobacco.¹ This figure is expected to rise to 10 million in 2030, with 7 million of these deaths occurring in developing countries, mainly China and India.^{2,3} Currently about one-fifth of all worldwide deaths attributed to tobacco occur in India, more than 800000 people die and 12 million people become ill as a result of tobacco use each year.^{3,4} Everyday about 80,000 to 100,000 young people initiate smoking, most of them in the developing countries.⁵ With current smoking patterns, about 500 million people alive today will eventually be killed by tobacco use. More than half of these future deaths will occur among today's children and teenagers.⁵

India is the world's second largest producer of tobacco. The country manufactured 94 billion cigarettes in 2001.⁶ In the country, other forms of tobacco use are more prevalent than cigarette smoking, particularly among women⁷. According to the National Sample Survey in 1993-94, among persons aged 10 years and older, 29.3% of rural males, 20.2% of urban males, 2.3% of rural females and 0.7% of urban females smoked cigarettes or bidis.^{7,8} Whereas for other forms of tobacco such as snuff, chewing tobacco, burnt tobacco, powder and paste, 19.3% rural males, 9.9% urban males, 9.3% rural females and 4.3% urban females in the same age-group used these.⁷ In India, annually there are around 900 thousand tobacco related deaths. The deaths attributable to tobacco, in India, are expected to rise from 1.4% of all deaths in 1990 to 13.3% in 2020.⁹

It is estimated that like other developing countries, the most susceptible time for initiating tobacco use in India is during adolescence and early adulthood, ages 15-24.⁸ The majority of users start using tobacco before age 18, while some even start as young as 10.¹⁰ It is estimated that 5,500 adolescents start using tobacco every day in India, joining the 4 million young people under the age of 15 who already regularly use tobacco.^{9,10} This early age of initiation is a pointer that there is an urgent need to conduct a needs assessment survey and plan effective interventions for this vulnerable age group. GYTS is a project aimed at describing tobacco use habits among youth around the world, in order to catalyze programmes for intervening and weaning them away from tobacco use. In the context of rapid globalisation, this becomes particularly important in contemporary time since India is undergoing a rapid epidemiological transition. It has resulted in noticeable changes in the lifestyles (habits/practices) of Indian population due to affluence, prevailing tobacco products being easily accessible and youth being targeted by aggressive marketing. It is expected that with income rise in India, that traditional uses of tobacco will diminish and cigarette smoking will increase. With urbanization, cigarette smoking is likely to become more fashionable, particularly in urban India.⁷ According to a study among Delhi students aged 11-14 years, 9.3% of students reported having experimented with smoking, in absence of any intervention programme.¹¹

Methodology

GYTS is a school-based cross sectional survey which employs a two-stage cluster sample design to produce representative sample of students in the age group of 13-15 years (corresponding to the standards 8-10 in Delhi schools). The Delhi component of GYTS, conducted in 2001, aimed to survey students in standard 8,9 and 10.

Enrollment

The sampling of schools required a complete enrollment list of all the schools in Delhi, which included any of the grades from 8 to 10. The survey sample frame included data about schools (number of students by section/class and range of ages). This was obtained from the Directorate of Education (for government schools) and National Progressive Schools Association (for private schools). A directory of private schools in Delhi was also referred to, for obtaining a comprehensive list of private schools. While the Directorate of Education had a complete list of Government and government-aided schools of Delhi, the private school list had to be prepared by the Delhi-GYTS team by contacting each school individually and obtaining the data on number of students in each of these grades in their school.

The compiled data of schools was sent to CDC for drawing the study sample. All schools with student enrollment numbers greater than 40 and students in grade 8th,9th and 10th were included in the sampling frame. At the first stage, schools were selected with probabilities proportional to the enrollment size. CDC sent back a list of 50 selected schools. Of these 9 were private schools and 41 were government and government-aided schools. Within each school, a computer generated list of random numbers of classes was produced to randomly select the classes in grades 8-10, to participate in the survey. The second sampling stage consisted of systematic equal probability sampling with a random start of classes from each school that participated in the survey. All eligible classes (corresponding to the target age group: 13-15 yrs) in the selected schools were included in the sampling frame. All students in the selected classes were eligible to participate in the survey. However, the survey procedure were designed to protect the student's privacy by allowing for anonymous and voluntary participation. A total of 1731 students participated in the Delhi GYTS survey from 50 schools of Delhi.

Questionnaire

Pretesting and translation

The questionnaire consisted of a core component and an "optional" component. The core questions allow for regional as well as international comparisons of survey results, while the optional questions concentrate on specific issues pertaining to individual countries and cities. The core questionnaire for India was further modified for Delhi to include the local cigarette, bidi and gutkha brands that were popular among the youth. Information

on the prices of these was also collected and included in these questionnaires. The medium of instruction in private schools of Delhi is English and that of Government and government – aided schools is Hindi. Thus the GYTS questionnaire was translated into Hindi. These modified questionnaires were pre tested in 2 focus group discussions (1 in English for private school students, and one in Hindi for government school students).

The work with schools was initiated by seeking written permission from the Directorate of Education for conducting this study in selected government and government aided schools. A two day training of the five field investigators was held in Delhi to train them for selecting the classes at stage two and for conducting the survey in the schools. The selected 50 schools were contacted by the field investigators and coordinators through personal visits. Permission to conduct this survey was sought from school principals after explaining the objectives of these surveys.

Second visits to these schools were made by field investigators, to conduct the survey. The GYTS was administered to the students by the field investigators. This was a self administered questionnaire that took an average of 30 minutes to complete in each class. GYTS questionnaires were provided to students according to the medium of instruction in the school and as per the respondent's choice. In general, the questionnaires in Hindi were provided to government school students and English to the private school students.

A weight was assigned to each questionnaire, to reflect the likelihood of sampling each student and to reduce bias by compensating for differing patterns of nonresponse. The weight used for estimation is given by:

$$W = W1 * W2 * f1 * f2 * f3 * f4$$

Where

W1 = the inverse of the probability of selecting the school

W2 = the inverse of the probability of selecting the classroom within the school

f1 = a school-level nonresponse adjustment factor calculated by school size category (small, medium, large).

f2= a class adjustment factor calculated by school

f3 = a student-level nonresponse adjustment factor calculated by class

f4= a post-stratification adjustment by grade(forms) and gender

SAMPLE DESCRIPTION:

All schools with student enrollment numbers greater than 40 and students in std. 8th, 9th and 10th were included in the sampling frame. A two-stage cluster sample design was used to produce a representative sample of students in Stds. 8th, 9th, and 10th.

School Level - The first-stage sampling frame consisted of all schools containing greater than 40 students in 8th, 9th and 10th. Schools were selected with probability proportional to school enrollment size.

Class Level - The second sampling stage consisted of systematic equal probability sampling (with a random start) of classes from each school that participated in the survey. All classes in the selected schools were included in the sampling frame. All students in the selected classes were eligible to participate in the survey.

OVERALL RESPONSE RATES:

Schools - 100.00% 50 of the 50 sampled schools participated.

Students- 79.3% 1,731 of the 2,183 sampled students completed usable questionnaires

Overall response rate - $100.00\% * 79.3\% = 79.3\%$

Results

One in 10 students (10%) had ever used tobacco in any form. Proportion of students currently using any tobacco products was 4.5% (Boys: 5.5%; Girls: 3.1%). Of these, the proportion of students who had chewed pan masala, gutkha or zarda in the past 30 days were 1.3%. Among them boys were significantly higher than girls (Boys: 2.3%; Girls:0.3%). (Table 1).

Table 1: Percent of students who use tobacco, India-Delhi GYTS, 2001

Category	Ever Used Tobacco, Even One or Two Puffs	Current Use						
		Any tobacco Product	Any Smoked Product	Smokeless Products	Current Cigarette Smoker	Current Bidi Smoker	Gutkha/ Pan masala	Betel quid with tobacco
Total	10.0 (±2.0)	4.5 (±1.5)	3.2 (±0.9)	2.8 (±1.2)	1.1 (±0.5)	0.7 (±0.5)	1.3 (±0.6)	0.8 (±0.5)
Sex								
Boys	11.1 (±1.9)	5.5 (±1.6)	4.3 (±1.2)	2.7 (±1.2)	1.5 (±0.7)	0.8 (±0.5)	2.3 (±1.0)	1.1 (±0.8)
Girls	8.8 (±3.0)	3.1 (±2.1)	1.9 (±1.3)	2.5 (±1.7)	0.7 (±0.8)	0.6 (±0.9)	0.3 (±0.5)	0.4 (±0.5)

Figures in parenthesis indicate 95% Confidence Intervals

With regard to curriculum at school level, about 4 in 10 students reported discussing reasons why people their age smoke or chew, less than 6 in 10 reported having learnt about the dangers of smoking and the effects of tobacco use and over 6 in 10 reported having discussed tobacco and health (Table 2).

Table 2: School Curriculum, India-Delhi GYTS, 2001

Category	Percent taught dangers of smoking	Percent discussed reasons why people their age smoke or chew	Percent taught the effects of tobacco use in class	Percent discussed tobacco and health as part of a lesson in class
Total	58.4 (±4.7)	42.7 (±4.0)	58.9 (±3.9)	62.5 (±4.0)
Sex				
Boys	58.5 (±5.1)	42.1 (±4.7)	60.3 (±4.8)	57.9 (±4.7)
Girls	58.3 (±7.2)	44.2 (±6.3)	57.4 (±6.0)	67.5 (±5.7)

Over three in ten students and significantly more boys than girls were exposed to other's smoke (passive smoking) in their home in the past 7 days. Among the never smokers, over 3 in 10 reported the same. More than half of the total students and more than half of the never smoking students reported being exposed to smoke from others, outside their home in the past 7 days. (Table 3)

Table 3: Environmental Tobacco Smoke, India-Delhi GYTS, 2001

Category	Exposed to smoke from others in their home in the past 7 days		Exposed to smoke from others outside their home in the past 7 days		Percent who think smoking should be banned from public places		Percent who definitely think smoke from others is harmful to them	
	Total	Never Smoker	Total	Never Smoker	Total	Never Smoker	Total	Never Smoker
Total	31.9 (±4.2)	30.9 (±4.2)	53.2 (±4.5)	52.1 (±4.7)	68.9 (±5.2)	69.5 (±5.4)	69.6 (±4.7)	70.0 (±5.0)
Sex								
Boys	36.3 (±4.2)	35.0 (±4.3)	58.0 (±4.9)	57.1 (±5.1)	65.8 (±5.3)	66.3 (±5.7)	65.1 (±5.2)	65.9 (±5.6)
Girls	27.3 (±4.7)	26.7 (±4.7)	48.1 (±5.1)	47.0 (±5.1)	72.1 (±7.9)	72.5 (±8.2)	74.41 (±6.3)	74.3 (±6.5)

The proportion of students who favored banning smoking in public places was about 70% and the same number of students actively thought that smoke from other people's cigarettes or bidis is harmful to them. (Table 3).

More than 2 out of 10 students believed that boys who smoke or chew tobacco have more friends and over one in ten students thought the same for girls and a significantly higher number of boys favored this belief. About 3 in 10 students thought that smoking or

chewing makes boys look more attractive and more than one in ten students felt this for girls. However a significantly higher proportion of boys than girls felt that girls look more attractive with tobacco use (Table 4).

Table 4: Knowledge and Attitudes, India-Delhi GYTS, 2002

Category	Think boys who smoke or chew have more friends	Think girls who smoke or chew have more friends	Think smoking or chewing makes boys look more attractive	Think smoking or chewing makes girls look more attractive
Total	22.0 (± 3.2)	10.3 (± 2.4)	26.9 (± 4.0)	15.4 (± 3.3)
Sex				
Boys	22.2 (± 2.7)	13.4 (± 3.0)	29.7 (± 5.0)	19.7 (± 4.0)
Girls	22.3 (± 6.1)	6.3 (± 3.0)	23.4 (± 5.8)	10.3 (± 3.8)

Only 26% of students were definite that smoking is harmful to their health, whereas a significantly higher number of students (60.6%) were definite that chewing and applying tobacco is harmful to their health (Table 5).

Table5: Knowledge and Attitudes, India-Delhi GYTS, 2001

Category	Percent who think smoking is definitely harmful to their health	Percent who think that chewing/applying is definitely harmful to their health
Total	26.0 (±10.6)	60.6 (±5.8)
Sex		
Boys	19.8 (±8.9)	54.4 (±6.0)
Girls	32.8 (±14.9)	67.9 (±7.3)

About 1 in 10 students reported having been offered a free cigarette, gutkha/pan masala by a tobacco company representative or a cigarette vendor and 8 in 10 reported the same for bidis. More than 8 in 10 students had seen any advertisement and media messages about cigarettes, gutkha/ pan masala and bidis on television and outside on hoardings, buses, bus stops, trains, railway platforms, shops or as writing on the walls in the past 30 days. Among the never tobacco users, more boys (88.5%) than girls (84.4%) have seen these advertisements outside. When asked about having seen any advertisements, quizzes, contests or promotions for cigarettes in newspapers and magazines, about 7 in 10 students reported having seen these advertisements and boys (73.1%) were significantly higher in number than the girls(64.4%). More than 7 in 10 students reported having seen the same for gutkha/pan masala in newspapers and magazines and significantly higher number of boys (79.4%) than girls(69.2%) had seen these advertisements. More than 8 in

10 students had seen some cigarette, gutka/ pan masala and bidi advertisement in social gatherings (fairs, concerts, community events, poojas or weekly market). (Tables 6A, 6B and 6C)

Table 6A: Media and Advertising – Cigarettes India-Delhi GYTS, 2001

Category	Percent offered a free cigarette by a tobacco company		Seen any advertisement and media messages about cigarette on:							
			TV		Outside		Newspapers/Magazines		Social gatherings	
	Total	Never Tobacco User	Total	Never Tobacco User	Total	Never Tobacco User	Total	Never Tobacco User	Total	Never Tobacco User
Total	9.9 (±2.4)	9.0 (±2.4)	89.8 (±1.3)	89.8 (±1.3)	86.8 (±2.1)	86.5 (±2.5)	69.3 (±3.7)	69.1 (± 3.9)	85.0 (±3.1)	84.5 (±3.7)
Sex										
Boys	9.5 (±1.7)	8.2 (±1.7)	89.8 (±1.7)	89.3 (±1.9)	88.2 (±1.9)	88.5 (±2.1)	73.1 (±3.9)	73.3 (±3.9)	87.8 (±3.1)	86.8 (±3.9)
Girls	10.3 (±4.6)	10.0 (±5.0)	89.9(±2.5)	90.5 (±2.5)	85.2 (±3.5)	84.4 (±1.9)	64.4 (±4.5)	63.7 (±4.7)	81.9 (±5.0)	81.7 (±5.4)

Table 6B: Media and Advertising – Guthka / Pan masala India-Delhi GYTS, 2001

Category	Percent offered free guthka/ pan masala by a tobacco company		Seen any advertisement and media messages about guthka / pan masala on:							
			TV		Outside		Newspapers/Magazines		Social gatherings	
	Total	Never Tobacco User	Total	Never Tobacco User	Total	Never Tobacco User	Total	Never Tobacco User	Total	Never Tobacco User
Total	9.5 (3.9)	8.7 (±4.1)	89.9 (1.56)	89.8 (±1.5)	86.4 (2.3)	86.3 (±2.5)	74.8 (4.1)	74.9 (±4.7)	85.9 (3.7)	85.7 (±3.9)
Sex										
Boys	10.7 (4.3)	9.9 (±4.7)	90.2 (1.96)	89.7 (±2.5)	88.3 (2.3)	88.0 (±2.3)	79.4 (3.5)	79.0 (±3.7)	87.0 (3.3)	86.4 (±3.7)
Girls	7.7 (5.5)	7.2 (±5.7)	89.4 (2.1)	89.6 (±2.1)	83.7 (3.1)	84.2 (±3.3)	69.2 (4.5)	70.2 (±4.7)	84.4 (5.3)	84.6 (±5.9)

Table6C: Media and Advertising – Bidis India-Delhi GYTS, 2001

Category	Percent offered a free bidi by a tobacco company		Seen any of advertisement and media messages about bidis on:			
			Outside		Social Events	
	Total	Never Tobacco User	Total	Never Tobacco User	Total	Never Tobacco User
Total	8.6 (3.7)	8.2 (± 3.7)	84.7 (2.9)	84.5 (± 3.1)	82.7 (3.7)	82.6 (± 4.1)
Sex						
Boys	10.6 (4.7)	9.9 (± 5.1)	86.0 (2.5)	85.9 (± 2.5)	84.7 (4.1)	84.1 (± 4.3)
Girls	6.5 (4.1)	6.5 (± 4.1)	83.3 (4.3)	83.2 (± 4.7)	80.4 (5.4)	80.9 (± 6.1)

Discussion: The prevalence of tobacco use in any form among both boys and girls in this age group is in agreement with earlier published findings.¹¹ Detailed profiling of current smokers, with respects to beliefs and behaviours, was not performed since the total number was small (n=35).

A very small number of students reported to have participated in any discussion on health consequences of tobacco or reasons for tobacco onset indicating that there is a definite need for including this topic in the curriculum at schools. This is important since students are at an impressionable age and prior research show this age to be vulnerable, as young people start experimenting at this age. Knowledge imparted in an interesting manner at this age will help in preventing young people from starting tobacco use out of ignorance about its impacts on health.

Second hand smoke is now known to be an important cause of preventable death and disease. It is a matter of concern that 3 out of 10 never smoking students were exposed to smoke from others in their family and 5 in 10 outside their home. This requires immediate attention in terms of policy intervention and awareness among the public. There seems to be a definite need to educate people about harmful effects of passive smoking. It is to be noted that not just the non smoking students but even the smokers supported banning of smoking in public places. Thus highlighting the need for effective tobacco control laws to be enforced.

This study has also brought forth an important issue regarding attitudes among youth. Both boys and girls reported that students who use tobacco irrespective of gender, look more attractive. This finding is similar to the results as reported by GYTS-Nepal.⁹ This indicates a strong need for attitude change which can be brought about by meaningful education and awareness among the youth. More students had reported chewing and applying tobacco to be more harmful to their health as compared to

smoking. This is contrary to earlier findings which state that people consider smoking to be more harmful than chewing or applying tobacco.

The availability and accessibility of tobacco products is a key contributor to the increased level of tobacco use among children and teenagers. The Delhi GYTS results revealed a very important area of policy intervention as about 1 in 10 never tobacco users were offered a free cigarette and gutkha/pan masala by a tobacco company representative or a vendor and similarly about 1 in 10 were offered bidis. Such a finding has not been reported earlier. This finding indicates the need for watch dogging the free distribution of these tobacco products to youth. The results for access and availability of tobacco products are alarming since 4 in 10 current tobacco users reported freely purchasing tobacco products in a store inspite of there being a Law in Delhi stating refusal to sell tobacco products to anyone below the age of 18.

The results of this survey have a special significance as this information is an important resource for decision makers to base their interventions and formulate effective laws to protect the youth of the country. This has pointed out the lacunae in our existing policies, which needs appropriate modification and strict implementation. This also indicates a significant role that NGOs and other organization can play in spreading mass awareness among the students and the community which can act as a deterrent for people to initiate tobacco use.

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